

## BRAN TUB.

### BASKET-MAKING.

A student (Miss Rothera) has made baskets most successfully with linoleum bases. The linoleum is quite easily cut into any shape with a penknife, and holes for spokes can be made with a stiletto.

### WHAT TO DO WITH PERRY PICTURES.

Keep one wall of the schoolroom clear, arrange them in groups of artists with drawing pins, or paste the sets on to brown paper sheets, and pin.

### A SUFFRAGETTE.

The reason why a Lancashire Lass of twenty decided to join the rank of suffragettes, was because her mother asked for an exemption from vaccination for her infant. The magistrate asked where the father was. "At work," was the answer. Then followed this startling statement: "Unless he comes I cannot grant it, for a mother is not a parent in the eyes of the law."

Mrs. Ayrton, one of the first ten Girtonians, during her speech at a biennial lunch in London, said that a married was not considered a *person* in the eyes of the law.

## LITERARY CORNER.

List of books worth reading, with various quotations.

"Science and Education Essays," T. H. Huxley.

The saying that a little knowledge is a dangerous thing is, to my mind, a very dangerous adage. If knowledge is real and genuine, I do not believe that it is other than a very valuable possession, however infinitesimal its quantity may be. Indeed, if a little knowledge is dangerous, where is the man who has so much as to be out of danger.

Perhaps the most valuable result of all education is the ability to make yourself do the thing you have to when it ought to be done, whether you like it or not.

It does not matter how many tumbles you have in this life, so long as you do not get dirty when you tumble.

"The Knowledge of God," Professor Gwatkin.

Personal influence, good or bad, comes from our real selves. Our concealments and hypocrisies are never very successful in disguising it, and in the long run fail entirely. This is why it is so great a force in the world.

that you have to climb on to an upper deck about the size of a dinner table, pay twice as much, and get the best of the tossing. A matter of three-quarters of an hour found us warped to the quay at Trouville, and in spite of our experiences, ravenous for breakfast. Trouville disappointed us, perhaps because we were so hungry; perhaps because it was out of the season. We walked along the quay, through the town to the station, where at the little buffet we had coffee in tumblers, and bread broken off one of those delicious yard-long rolls. We found to our good fortune that there was a train to Caen at 8-50. It ran us through lovely wooded country, rather disappointingly English in character, and we were only too anxious to begin exploring the town when we arrived at Caen a few hours later.

(To be continued).

## A FRESH-WATER AQUARIUM.

Last spring I was able to realize a wish of some years' standing, viz., to possess an aquarium. I was fortunate in having the help of a brother with a mechanical turn of mind, and with a little outside help we made an aquarium 30 by 22½ inches and 10 inches deep, of quarter-inch plate glass, resting in a groove a quarter inch deep, cut in a slate base one inch thick, and held into position by "angle zinc" fitted down each corner of it, and a frame of the same "angle zinc" round the top. The glass was cemented together with a most sticky mixture, the ingredients of which I am sorry to say I have forgotten, but I see there is a similar cement given in Furneaux' "Life in Ponds and Streams," page 75. (This book can be had from the P.N.E.U. Library, and will prove a practical help to one wishing to keep an aquarium. Unfortunately I did not see it till I had learned by bitter experience many of the truths it teaches!) The cement should not be mixed till required. One is told by Furneaux to leave the cement for a week or two to harden. I should



say the longer one can leave it the better, as we did not put water into ours for about ten days, and though this was in the spring, the cement is not yet hard nor ever will be now! Still it is quite water-tight.

We left water standing in it for a day or two to test it (and anxious days they were too, as one did not care to think what would happen if twenty gallons of water were suddenly let loose in a top room of a house newly papered!). We also wished to remove any soluble matter that might adhere to the cement. This water was then run off by means of a siphon through the window into a gutter. Then enough gravel (stones and sand which had previously been boiled and well rinsed) put in to cover the bottom. We made a fountain of ordinary glass tubing, bent at the corners after having been made soft in a gas flame. This was connected with a cistern in the shape of a stone filter standing on a firm bracket about two feet above the aquarium. Coming from the same cistern is an aëerator made of glass and indiarubber tubing, similar to the illustration on page 82 in Furneaux' book, but where the pipe is disconnected we have a piece of glass tubing surrounding the two ends, and having an aperture of about a quarter inch diameter in the middle of it, through which the air enters. The fountain plays in the middle of the aquarium, surrounded by pieces of old bricks and clinkers (also boiled first).

Having filled the aquarium again with water, we planted amongst the stones pieces of American pond weed, and after it had settled, in a day or two, I was able to stock it, with the kind help of a student. For the first few weeks I had sticklebacks (which unfortunately occasionally attacked each other), a corixa, or spurious water boatman, a few other small water beetles, various snails, and some caddis fly larvæ. I could not understand why the sticklebacks one after the other died, till I was told that the corixa attacks other creatures with its sharp beak. Needless to say, that after that the corixa had to live in solitude.

At the end of May I went for a pond-dipping expedition at Cheshunt with the School Nature Study Union, and came back laden with treasures—amongst others three large water spiders, one of which kindly built a thimble-shaped nest attached to the weeds. These were always a source of great interest, as they walked about on the plants and dived to the

bottom, carrying with them the layer of air on their downy hairs, and resembling balls of mercury. Unfortunately they did not survive the removal to another aquarium whilst their own was being overhauled in the summer holidays, and when I returned they were all dead, also the sticklebacks.

There was one small beetle which was, more than once to my knowledge, swallowed by a stickleback, who seemed disappointed by the toughness of the morsel he had chosen, and so gave it another chance to live. This beetle went by the name of "Jonah," for obvious reasons.

At present the aquarium is inhabited by four fine gold and silver carp, who have become so friendly that they will take their food from my hand, and come and nibble my finger when I put it in the aquarium. It is strange how much individual character can be noticed even in these fish.

There are many stories I could tell about the various inhabitants I have had in the past few months, but space forbids. Perhaps in a later number I may be allowed the privilege of narrating a few of them. I had no idea before I kept this aquarium to what an extent pond animals prey upon each other, and how many species have to be kept separate from others. For this purpose I keep many smaller aquaria. Perhaps I should mention that the large one cost between £2 5s. and £2 10s. altogether. I was able to get a smaller one (about 12 by 18 inches and 12 inches deep) at an auction for 7s. 6d.

It is necessary to keep several snails to act as scavengers, and of these I have about five kinds.

In concluding, I hope that if I can give any help to a student wishing to start an aquarium she will write to me, who though but a beginner myself, can let others profit by whatever experience I have gained during the last few months.

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